The Claims:

1. An apparatus for producing an integral photographic image of an object, comprising:

a plurality of image projectors located in a grid, at least some of the plurality of image projectors being arranged horizontally and vertically adjacent to one another,

wherein each of the plurality of image projectors include

at least one lens with a lens surface,

at least one curved photo coated imaging surface,

at least one diaphragm aperture,

the at least one lens and the at least one imaging surface defining a space, at least one optical substance being in said space,

said image projectors being arranged such that the image of the object projects on the at least one photo coated imaging surface; and

a backlight system having means for directing light through the at least one photo coating imaging surface and the at least one lens surface.

2. The apparatus of claim 1, further comprising a computer with a monitor, said projectors being arranged such that a computer calculated picture on the monitor is projected on the imaging surface during exposure and projected out during

showing, the computer exposing each projector with an individual computer calculated picture one after another, the computer calculating a special perspective of the individual computer calculated picture and adjusting any errors.

3. The apparatus of claim 2, further comprising an LCD display layer integrated on the projectors for maintaining image information, the computer controlling the LCD layer.

4. The apparatus of claim 1, wherein each of the projectors include a front and a rear, the at least one lens surface being a spherical lens surface arranged at the front of the lens surface, the diaphragm aperture being arranged behind the spherical lens, the curved photo coated imaging surface being arranged behind the diaphragm aperture,

each of the projectors further comprising an aspheric lens surface arranged behind the imaging surface for focusing parallel light from the rear of the projectors into the diaphragm aperture, and

wherein the imaging surface and the diaphragm define a space filled with a liquid optical medium.

5. The apparatus of claim 4, wherein each of the plurality of projectors further include a diaphragm plate for

opening and closing the at least one diaphragm aperture, the diaphragm plate including a spring for pushing the plate to one side and magnets such that the plate is adapted to be moved by interaction with electrical magnets.

6. An apparatus for producing an integral photographic image of an object, comprising:

a plurality of recording projectors and a plurality of showing projectors, wherein at least one of each of the recording projectors and at least one of each of the showing projectors includes

a protection glass layer

at least one lens surface,

at least one curved photo coated imaging surface,

a diaphragm aperture,

the at least one lens surface and the at least one imaging surface defining a space, at least two different optical substances in said space,

said image projectors being arranged such that the image of the object can be projecting on the at least one photo coated imaging surface; and

a backlight system having means for directing light through the at least one photo coating imaging surface and the at least one lens surface.

7. The apparatus of claim 1, wherein the backlight system includes a plurality of prisms for supplying parallel light to the plurality of projectors.

8. The apparatus of claim 7, wherein the prisms of the backlight system are rhomboid prisms assembled into a grid, said rhomboid prisms being glued together with glue having a higher refractive index than the rhomboid prisms, the prisms having partially and fully reflecting layers, the backlight system further including a light source being distributed relatively evenly amount grid segments of the grid, the light source supplying a light stream being partially reflected at glued prism surfaces by 90°, wherein the light stream flows a second time through the system after reaching a last rhomboid prism.

9. The apparatus of claim 8, wherein the grid has edge cells which reflect one part of the light stream 90° to one side and another part of the light stream 90° to the plurality of projectors, wherein the edge cells are formed by cutting a rhomboid prism twice diagonally, applying a fully and partially reflecting mirror layers to the surfaces, and gluing the two diagonal cuts together.

10. The apparatus of claim 4, the ashperic lens surface and the backlight system defines a space filled with an opaque liquid for preventing interfering reflections between individual projectors.

11. The apparatus of claim 1, further comprising an optical plate arranged in front of the plurality of projectors to direct the image toward spectators, the optical plate including

an optical plate surface adjacent the projectors,

a diverting prism in front of each of the plurality of projectors,

at least some of the prisms including a curvature on one side to compensate for distortions,

at least some of the prisms including alternating prism deviations to align an optimal visual field.

12. The apparatus of claim 1, wherein each of the plurality of projectors record and project in one of red, green, and blue.

13. The apparatus of claim 12, further comprising color filters and means for adjusting the imaging surface, the lens surface, and the photo layer to the corresponding color.

14. The apparatus of claim 1, wherein each of the plurality of projectors record and project the whole color spectrum.

15. The apparatus of claim 1, further comprising a lens plate having several lenses arranged in front of each of the plurality of projectors for increasing point resolution.

16. The apparatus of claim 1, further comprising a perspective conversion wall for converting a view of the objected into an inverted perspective view, the perspective wall including a plurality of individual bodies arranged in a grid, each body including a glass structure with two mirror surfaces embedded and cutting one anther vertically, and a diaphragm aperture at the intersection point of the two mirror surfaces, wherein both mirror surfaces stand vertically relative to a plane parallel to wall.

17. The apparatus of claim 16, wherein the conversion wall is suspended between two plates with a lubricating agent such that it is easily movable to increase resolution.

18. An apparatus for producing an integral photographic image of an object into an area, comprising:

a plurality of image projectors located in a grid, at least some of the plurality of image projectors being arranged horizontally and vertically adjacent to one another,

wherein each of the plurality of image projectors include

at least one lens with a lens surface,

at least one curved photo coated imaging surface having a mirror surface,

a diaphragm aperture,

the at least one lens surface and the at least one imaging surface defining a space, at least two different optical substances in said space,

said image projectors being arranged such that the image of the object can be projecting on the at least one photo coated imaging surface;

a strong light source shining obliquely onto the mirror side during reproduction to project images on the mirror surface into the room; and

a computer for calculating the image with respect to the position of the light source.

19. An automatic exposing machine for exposing individual image modules of an integral photography apparatus, each of the

individual modules having at least one diaphragm aperture, at least one lens surface with a lens, at least one curved photo coated imaging surface, the at least one lens surface and the at least one imaging surface defining a space for at least one optical substance, the machine comprising:

a module reservoir, a precision track, a large exposure screen, an objective, a diaphragm aperture, and a controlling computer, the image modules being automatically taken from the reservoir, the image modules being put on the precision track and being guided by the computer in front of the objective of the large exposure screen, the computer calculating the image, opening and closing the diaphragm and continuing the next module.

20. The automatic exposing machine of claim 19, further comprising means for taking image modules not yet developed from a reservoir and developing them without light, said development means including means for filling or emptying liquid substances in the module, means for sequentially introducing photo developing chemicals into the modules, means for sealing the modules, means for marking the modules as developed, and means for pushing the modules into the reservoir and continuing with the next module.

21. The apparatus of claim 1, further comprising additional lenses to increase image resolution, wherein the additional lenses have a shape and reflective index such that the additional lenses correct any color error, opening error, and imaging errors.

22. The apparatus of claim 1, further comprising means for memorizing several images on the imaging surfaces for reproduction of a short cyclic movement sequence of an overall imaging scene, the memorizing means including a plurality of photosensitive layers being coated on the imaging surfaces, the plurality of photosensitive layers having individual red, green, and blue layers, means for exposing each individual image to the red, green, and blue layers, and means for reading a signal produced in response to the exposure.

23. A process for producing a large integral photography image of an object with a plurality of image projectors located in a grid and having at least one diaphragm aperture, at least one lens with a lens surface, at least one curved photo coated imaging surface, the lens and the imaging surface defining a space for optical substances, the process comprising:

recording the image with a recording projector; and

showing the image with a showing projector,

at least one of the recording and showing step including

arranging the image projectors such that the image is in front of each of image projector and can be projected onto the photo coated imaging surface,

arranging the image projectors such that a computer calculated picture on a monitor can be projected on the imaging surface inside the projector and can be projected out,

exposing each projector with the computer calculated picture one after another,

calculating a special perspective of the image by a computer,

filling or emptying the spaces with the optical substance,

adjusting any errors, and

developing the photo coated imaging surface through an access space.